

Notice of Allowability**Application No.**

10/761,622

Examiner

KimbleAnn Verdi

Applicant(s)

BECK ET AL.

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to January 14, 2009 and Terminal Disclaimer.
2. ☒ The allowed claim(s) is/are 28-29, 38-41, 44-52, and 55-60 now renumbered as 1-27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 1/20/2009
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Bobby K. Truong (Reg. No. 37,499) on January 29, 2009.
3. Amend the claims as follows:

1-27. (Canceled)

28. (Previously Presented) A machine-implemented method, comprising:
establishing, within a global operating system environment provided by an operating system (OS) kernel, a first non-global zone which serves as a first virtual platform for supporting and isolating user processes, wherein the first non-global zone is a separate and distinct OS partition of the global operating system environment having a first zone identifier associated therewith, and wherein the first non-global zone is established and exists without requiring any user processes to be running therein;
establishing, within the global operating system environment, a second non-global zone which serves as a second virtual platform for supporting and isolating user processes, wherein the second non-global zone is a separate and distinct OS partition

of the global operating system environment having a second zone identifier associated therewith, and wherein the second non-global zone is established and exists without requiring any user processes to be running therein;

executing a first set of one or more user processes within the first non-global zone;

executing a second set of one or more user processes within the second non-global zone; and

isolating the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone such that the first set of one or more user processes cannot access processes in the second non-global zone and the second set of one or more user processes cannot access processes in the first non-global zone;

wherein the first and second non-global zones are established by the OS kernel, and wherein the OS kernel enforces zone boundaries to isolate the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone.

29. (Currently Amended) The method of claim 28, wherein the OS kernel provides services that are invoked by the first set of one or more user processes, and wherein the services are invoked by the first set of one or more user processes through the first virtual platform.

30-31. Canceled

32. (Previously Presented) The method of claim 28,

wherein a first set of resources are associated with the first non-global zone and a second set of resources are associated with the second non-global zone;

wherein the first set of resources are accessed by the first set of one or more user processes through the first virtual platform and the second set of resources are accessed by the second set of one or more user processes through the second virtual platform; and

wherein the first set of resources and the second set of resources each include one or more resources from the group consisting of a network interface, a communications interface, a file system, a system console, a DASD address, and an operating system service process.

33. (Currently Amended) The method of claim 32, wherein isolating the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone further comprises:

preventing the first set of one or more user processes from accessing the second set of resources associated with the second non-global zone; and

preventing the second set of one or more user processes from accessing the first set of resources associated with the first non-global zone.

34. (Currently Amended) The method of claim 32, wherein executing the first set of one or more user processes within the first non-global zone causes a first application environment to be established within the first non-global zone, and wherein the method further comprises:

receiving a command to halt the first non-global zone;

in response to the command to halt the first non-global zone:

terminating all user processes executing within the first non-global zone,

thereby terminating the first application environment; and

disassociating the first set of resources from the first non-global zone;

wherein the second non-global zone is not affected by the command to halt the first non-global zone.

35. (Currently Amended) The method of claim 32, wherein executing the first set of one or more user processes within the first non-global zone causes a first application environment to be established within the first non-global zone, and wherein the method further comprises:

receiving a command to halt the first non-global zone;

in response to the command to halt the first non-global zone:

terminating all user processes executing within the first non-global zone,

thereby terminating the first application environment; and

performing one or more tasks from the group consisting of stopping a

scheduler process, unmounting one or more file systems, closing

one or more network interfaces, and removing configurations for devices associated with the first non-global zone;

wherein the second non-global zone is not affected by the command to halt the first non-global zone.

36. (Previously Presented) The method of claim 28, further comprising:

allowing a first administrator to manage processes and resources within the first non-global zone, wherein the first administrator is not allowed to manage processes and resources within the second non-global zone; and

allowing a second administrator to manage processes and resources within the second non-global zone, wherein the second administrator is not allowed to manage processes and resources within the first non-global zone.

37. (Previously Presented) The method of claim 28, wherein establishing the first non-global zone comprises:

assigning the first zone identifier, plumbing one or more network interfaces, and mounting one or more file systems;

wherein establishing the first non-global zone does not include executing user processes within the first non-global zone.

38. (Previously Presented) The method of claim 37, wherein the configuration information comprises one or more parameters from the group consisting of a zone

name, a path to a root directory for the first non-global zone, specification of one or more file systems to be mounted when the first non-global zone is created, specification of one or more network interfaces, specification of one or more devices to be configured when the first non-global zone is created, and specification of resource controls to be imposed on the first non-global zone.

39. (Previously Presented) The method of claim 28, wherein executing the first set of one or more user processes within the first non-global zone comprises:

executing an initialization process; and

initializing, by the initialization process, execution of the first set of one or more user processes.

40. (Previously Presented) A machine-readable storage medium storing one or more sets of instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

establishing, within a global operating system environment provided by an operating system (OS) kernel, a first non-global zone which serves as a first virtual platform for supporting and isolating user processes, wherein the first non-global zone is a separate and distinct OS partition of the global operating system environment having a first zone identifier associated therewith, and wherein the first non-global zone is established and exists without requiring any user processes to be running therein;

establishing, within the global operating system environment, a second non-global zone which serves as a second virtual platform for supporting and isolating user processes, wherein the second non-global zone is a separate and distinct OS partition of the global operating system environment having a second zone identifier associated therewith, and wherein the second non-global zone is established and exists without requiring any user processes to be running therein;

executing a first set of one or more user processes within the first non-global zone;

executing a second set of one or more user processes within the second non-global zone; and

isolating the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone such that the first set of one or more user processes cannot access processes in the second non-global zone and the second set of one or more user processes cannot access processes in the first non-global zone;

wherein the first and second non-global zones are established by the OS kernel, and wherein the OS kernel enforces zone boundaries to isolate the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone.

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41. (Currently Amended) The machine-readable storage medium of claim 40, wherein the OS kernel provides services that are invoked by the first set of one or more user processes, and wherein the services are invoked by the first set of one or more user processes through the first virtual platform.

42-43. Canceled

44. (Previously Presented) The machine-readable storage medium of claim 40, wherein a first set of resources are associated with the first non-global zone and a second set of resources are associated with the second non-global zone;

wherein the first set of resources are accessed by the first set of one or more user processes through the first virtual platform and the second set of resources are accessed by the second set of one or more user processes through the second virtual platform; and

wherein the first set of resources and the second set of resources each include one or more resources from the group consisting of a network interface, a communications interface, a file system, a system console, a DASD address, and an operating system service process.

45. (Currently Amended) The machine-readable storage medium of claim 44, wherein isolating the first set of one or more user processes within the first non-global

zone and the second set of one or more user processes within the second non-global zone further comprises:

preventing the first set of one or more user processes from accessing the second set of resources associated with the second non-global zone; and

preventing the second set of one or more user processes from accessing the first set of resources associated with the first non-global zone.

46. (Currently Amended) The machine-readable storage medium of claim 44, wherein executing the first set of one or more user processes within the first non-global zone causes a first application environment to be established within the first non-global zone, and wherein the machine-readable storage medium further stores one or more sets of instructions for causing the one or more processors to perform the steps of:

receiving a command to halt the first non-global zone;

in response to the command to halt the first non-global zone:

terminating all user processes executing within the first non-global zone,

thereby terminating the first application environment; and

disassociating the first set of resources from the first non-global zone;

wherein the second non-global zone is not affected by the command to halt the first non-global zone.

47. (Currently Amended) The machine-readable storage medium of claim 44, wherein executing the first set of one or more user processes within the first non-global

zone causes a first application environment to be established within the first non-global zone, and wherein the machine-readable storage medium further stores one or more sets of instructions for causing the one or more processors to perform the steps of:

- receiving a command to halt the first non-global zone;

- in response to the command to halt the first non-global zone:

 - terminating all user processes executing within the first non-global zone,

 - thereby terminating the first application environment; and

 - performing one or more tasks from the group consisting of stopping a scheduler process, unmounting one or more file systems, closing one or more network interfaces, and removing configurations for devices associated with the first non-global zone;

wherein the second non-global zone is not affected by the command to halt the first non-global zone.

48. (Previously Presented) The machine-readable storage medium of claim 40, wherein the machine-readable storage medium further stores one or more sets of instructions for causing the one or more processors to perform the steps of:

- allowing a first administrator to manage processes and resources within the first non-global zone, wherein the first administrator is not allowed to manage processes and resources within the second non-global zone; and

allowing a second administrator to manage processes and resources within the second non-global zone, wherein the second administrator is not allowed to manage processes and resources within the first non-global zone.

49. (Previously Presented) The machine-readable storage medium of claim 40, wherein establishing the first non-global zone comprises:

assigning the first zone identifier, plumbing one or more network interfaces, and mounting one or more file systems;

wherein establishing the first non-global zone does not include executing user processes within the first non-global zone.

50. (Previously Presented) The machine-readable storage medium of claim 49, wherein the configuration information comprises one or more parameters from the group consisting of a zone name, a path to a root directory for the first non-global zone, specification of one or more file systems to be mounted when the first non-global zone is created, specification of one or more network interfaces, specification of one or more devices to be configured when the first non-global zone is created, and specification of resource controls to be imposed on the first non-global zone.

51. (Currently Amended) The machine-readable storage medium of claim 40, wherein executing the first set of one or more user processes within the first non-global zone comprises:

executing an initializer process; and

initializing, by the initializer process, execution of the first set of one or more user processes.

52. (Currently Amended) An apparatus comprising:

one or more processors configured to implement:

means for establishing, within a global operating system environment provided by an operating system (OS) kernel, a first non-global zone which serves as a first virtual platform for supporting and isolating user processes, wherein the first non-global zone is a separate and distinct OS partition of the global operating system environment having a first zone identifier associated therewith, and wherein the first non-global zone is established and exists without requiring any user processes to be running therein;

means for establishing, within said global operating system environment, a second non-global zone which serves as a second virtual platform for supporting and isolating user processes, wherein the second non-global zone is a separate and distinct OS partition of the global operating system environment having a second zone identifier associated therewith, and wherein the second non-global zone is established and exists without requiring any user processes to be running therein;

means for executing a first set of one or more user processes within the first non-global zone;

means for executing a second set of one or more user processes within the second non-global zone; and

means for isolating the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone such that the first set of one or more user processes cannot access processes in the second non-global zone and the second set of one or more user processes cannot access processes in the first non-global zone;

wherein the first and second non-global zones are established by the OS kernel, and wherein the OS kernel enforces zone boundaries to isolate the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone.

53-54. Canceled

55. (Previously Presented) The apparatus of claim 52,

wherein a first set of resources are associated with the first non-global zone and a second set of resources are associated with the second non-global zone;

wherein the first set of resources are accessed by the first set of one or more user processes through the first virtual platform and the second set of resources are accessed by the second set of one or more user processes through the second virtual platform; and

wherein the first set of resources and the second set of resources each include one or more resources from the group consisting of a network interface, a communications interface, a file system, a system console, a DASD address, and an operating system service process.

56. (Currently Amended) The apparatus of claim 55, wherein the means for isolating the first set of one or more user processes within the first non-global zone and the second set of one or more user processes within the second non-global zone further comprises:

means for preventing the first set of one or more user processes from accessing the second set of resources associated with the second non-global zone; and

means for preventing the second set of one or more user processes from accessing the first set of resources associated with the first non-global zone.

57. (Currently Amended) The apparatus of claim 55, wherein executing the first set of one or more user processes within the first non-global zone causes a first application environment to be established within the first non-global zone, and wherein the apparatus further comprises:

means for receiving a command to halt the first non-global zone;

in response to the command to halt the first non-global zone:

means for terminating all user processes executing within the first non-global zone, thereby terminating the first application environment;
and

means for disassociating the first set of resources from the first non-global zone;

wherein the second non-global zone is not affected by the command to halt the first non-global zone.

58. (Currently Amended) The apparatus of claim 55, wherein executing the first set of one or more user processes within the first non-global zone causes a first application environment to be established within the first non-global zone, and wherein the apparatus further comprises:

means for receiving a command to halt the first non-global zone;

in response to the command to halt the first non-global zone:

means for terminating all user processes executing within the first non-global zone, thereby terminating the first application environment;
and

means for performing one or more tasks from the group consisting of
stopping a scheduler process, unmounting one or more file
systems, closing one or more network interfaces, and removing
configurations for devices associated with the first non-global zone;

wherein the second non-global zone is not affected by the command to halt the first non-global zone.

59. (Previously Presented) The apparatus of claim 52, wherein the means for establishing the first non-global zone comprises:

means for assigning the first zone identifier, plumbing one or more network interfaces, and mounting one or more file systems;

wherein establishing the first non-global zone does not include executing user processes within the first non-global zone.

60. (Previously Presented) The apparatus of claim 59, wherein the configuration information comprises one or more parameters from the group consisting of a zone name, a path to a root directory for the first non-global zone, specification of one or more file systems to be mounted when the first non-global zone is created, specification of one or more network interfaces, specification of one or more devices to be configured when the first non-global zone is created, and specification of resource controls to be imposed on the first non-global zone.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KimbleAnn Verdi whose telephone number is (571)270-1654. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.
6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/

Supervisory Patent Examiner, Art Unit 2195

January 30, 2009

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